

Few traveling cyclones of more than very moderate intensity appeared on the North Pacific during May. In extratropical waters a cyclone that first appeared as a depression in eastern China on the 20th, developed some intensity south of Japan on the 22d, causing fresh north-easterly gales over the eastern part of the Yellow Sea. On the 23d the storm deepened as it skirted the Japanese east coast, although still no gales higher than fresh were reported. On the 24th to 26th, continuing barometrically low, it moved north-northeastward across the Kuril Islands and entered the Bering Sea, where it merged with the Aleutian cyclone. In tropical waters the only typhoon of the month, and not of great severity, is described in a following article by the Rev. José Coronas, of the Philippine Weather Bureau.

From May 29 to June 1 a tropical cyclone existed south and west of the Gulf of Tehuantepec. Little is known of its activities beyond the fact that it attained great violence on the 30th and was apparently traveling west-northwestward not far from the Mexican coast. During the afternoon of the 29th the American steamer *Sylvan Arrow*, southbound, ran across the northern edge of the storm southwest of the gulf, experiencing moderate to fresh easterly gales, with slight depression of the barometer, the greatest depth, 29.70 inches, occurring on the morning of the 30th, in 14° 34' N., 95° 41' W. The American steamer *Tuscaloosa City*, Colon to Honolulu, encountered an east gale of force 11 at 1.30 p. m. of the 30th, barometer 29.48, in 14° 28' N., 97° 26' W., and the S. S. *Pennsylvania* had a northeast hurricane, lowest pressure 29.21 inches, at 8.30 p. m., in 15° 00' N., 97° 30' W. The S. S. *Nebraskan*, northbound, reported "continuous heavy rain from noon, May 30, to 4 a. m. June 1, wind increasing to whole gale force at times."

This is the second May cyclone in these waters of which the Weather Bureau has record; it is also the only hurricane of the month, the earlier being the moderate disturbance of May 24-27, 1928.

The weather at Honolulu was drier and warmer than usual for the month. The trades blew during 90 per cent of the time, with winds from the east prevailing. The highest velocity was at the rate of 23 miles an hour from the northeast, on the 14th.

As summer conditions began settling in on the Pacific, fog increased in area and in number of days of formation over upper latitudes and locally in lower latitudes. This increase in May was especially pronounced along the American coast and over a great region generally south-east of the Kuril Islands. East of northern Japan for an approximate distance of 1,000 miles at sea fog became more and more frequent as the month wore on, the percentage of days with it for the entire period rising to 30 or 35 in some 5° squares. Twenty per cent of the days were foggy off the central California coast, and along the western length of Lower California to and below Cape San Lucas, fog was reported on 9 days, mostly during the early half of the month.

Note.—American steamer *President Taft*, Capt. K. A. Ahlin, Yokohama to Victoria, May 24-June 2. Observer, B. H. Bassett, third officer: "This trip has been very unusual in having continuous overcast weather. Southerly winds with fog and southeasterly winds with rain predominated. No wind from the north quadrants were experienced after leaving the Japanese coast."

Typhoon in the North Pacific Ocean, April, 1929.—According to a clipping from the San Diego Union, of May 24 (San Diego, Calif.), the American steamer *Edgefield*, Capt. W. H. Walker, experienced a heavy typhoon "near the Philippines" on April 25, 1929, with the

barometer down to 28.10 and the wind blowing at 115 miles an hour. The paper quoted Captain Walker as saying:

"The emergency steering gear and all movable equipment on the deck was carried away. Electric light wiring to the deck house was torn away and the radio room destroyed. Paint was blown off the ventilators, and an intense feeling of suffocation was felt while the ship floundered around in the vortex of the gale."—*W. E. Hurd.*

Mirage in the Red Sea.—The following communications from observers on board vessels bound from the Indian Ocean toward Suez relate to special atmospheric conditions experienced in and near the Red Sea.

Dutch cargo steamer *Stadsdijk*, Capt. D. C. Wijers, observer K. Rodenhuis: "On May 4, in the Gulf of Suez, we perceived much looming of ships, lighthouses, and coast in the neighborhood. After sunset the lights of Ras Gharib, Zafarana, and Abu Deraj were seen at twice their usual distance. The barometer followed its daily alterations. Temperature of air was 28° (82° F.), and of sea water at surface 24° to 22° (75° to 72° F.). No wind observable."

British steamer *Donax*, Captain and observer C. Howe: "May 5, abnormal refraction. At 2100 light E'ly airs and heavy dew. The Brothers Light (Red Sea) was sighted bearing 323° dist. 54'. This light disappeared at 2104 until 2120. The light was then in sight continuously, varying from full brilliancy to a loom. At this time it was impossible to get even an approximation of the horizon, sky and sea appearing to run into one."—*W. E. Hurd.*

TYPHOONS AND DEPRESSIONS

By Rev. JOSÉ CORONAS, S. J.

[Weather Bureau, Manila, P. I.]

*The first typhoon over the Philippines in 1929.*¹—The first typhoon of 1929¹ did not appear clearly in our weather maps until 6 a. m. of May 24, when it was only 100 miles east of Samar, thus giving rather a short time for proper warnings. Its center traversed Samar Island moving WNW. or NW. by W. during the night of May 24 to 25, and reached the Strait of San Bernardino in the early morning of the 25th. From the Strait of San Bernardino it continued moving WNW. until the afternoon of the 25th, when it began to move northward across the Ragay Gulf. This northerly direction was kept until after midnight when it inclined again northwestward traversing with this direction the northernmost part of Luzon on the 26th. Then, on the 27th it recurved to ENE. and E. by N. across the Balintang Channel.

It was not a severe typhoon, the barometric minimum so far reported from our stations being that of Guian 747.51 mm. (29.31 ins., not corrected for gravity) at 4.30 p. m. of the 24th.

The approximate positions of the center at 6 a. m. of May 24 to 28 were as follows:

May 24, 127° 30' long. E.; 11° 25' lat. N.
May 25, 124° 30' long. E.; 12° 25' lat. N.
May 26, 122° 00' long. E.; 17° 05' lat. N.
May 27, 123° 30' long. E.; 20° 00' lat. N.
May 28, 129° 10' long. E.; 20° 05' lat. N.

Due probably to local conditions, even though the center of the typhoon did not touch the Province of Leyte, reports have been received of extensive damage done to the crops by heavy rains and floods with loss of over 100 lives in several towns of the southern part of that Province.

¹ A press report, quoted in the preceding article, indicates the occurrence of a typhoon at the end of April, but no other information regarding such a storm has been received to date by the Weather Bureau.—*W. E. H.*